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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,122	07/15/2003	Laurent Filipozzi	4717-8100	1944

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EXAMINER
RACHUBA, MAURINA T

ART UNIT	PAPER NUMBER
3723	

DATE MAILED: 08/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/621,122	FILIPOZZI ET AL.	
	Examiner	Art Unit	
	M Rachuba	3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 12 recites the limitation "the surfactant solution" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. Claim 12 depends from claim 8, which does not limit any surfactant or surfactant solution. Claim 11, which limits “a surfactant”, does not limit “the surfactant solution”.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-6 and 14-18 rejected under 35 U.S.C. 102(e) as being clearly anticipated by Hall et al 6,638,145. ‘145, columns 1-2, discloses that it is old and well known to polish a wafer surface with a polishing solution that includes dispersed solid particles and a chemical agent, and controllably stopping the chemical attack of the

wafer surface by progressively introducing a rinsing solution onto the wafer surface to prevent chemical attack of the wafer surface beyond a desired planarization. The rinsing solution is introduced to the wafer surface via the textured polishing pad. The polishing solution is basic and the rinsing solution is acidic. The rinsing and cleaning solutions include deionized water.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claim 7 is rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hall et al, '145. '145 does not disclose the material of the wafer. It is the examiner's position that it is inherent that wafers are made of materials that include silicon, silica, glass or quartz. In support of such

inherency, the examiner cites Exploring Material Engineering: Semiconductor Materials, which cites silicon as a widely used elemental semiconductor material. If not inherent, it would have been old and well known to one of ordinary skill in the art to have provided '145 with a semiconductor of silicon, as a well known semiconductor material.

9. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et al. '145 discloses that it is known to provide a polishing pH of around 10 or 11, and a rinsing pH of about 6. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided '145 with a rinsing pH lower than 6, a more acidic rinsing solution, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Here, one of ordinary skill would recognize that the use of a more acidic rinsing solution would effect the time required to stop the chemical attack of the wafer surface, but not change the prior art method of polishing and rinsing the wafer as disclosed.

10. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et al, '145 in view of Nagoshi et al, 5,958,298. '145 does not teach including a surfactant to the rinsing solution, the surfactant being an aqueous solution containing polyoxyalkylene alkyl ether at a critical micelle concentration of about 0.1% or less. '298, column 4, lines 43-57, teaches including a surfactant to a rinsing solution for cleaning electronic components, the surfactant being an aqueous solution containing polyoxyalkylene alkyl ether at a critical micelle concentration of about 0.1% or less. It would have been obvious to one of ordinary skill to have provided '145 with a rinsing

solution that includes polyoxyalkylene alkyl ether at a critical micelle concentration of about 0.1% or less, as taught by '298, to prevent the rinsing solution from pooling on the surface of the wafer, see column 2, lines 5-19.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Other similar methods are cited of interest.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M Rachuba whose telephone number is 703-308-1361. The examiner can normally be reached on Monday-Thursday from 8:30 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail, can be reached on (703) 308-2687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

> Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Rachuba
Primary Patent Examiner
27-Jul-04